

**ABSTRACT**

The present invention provides an electric motor accomplishing high efficiency and of improved starting characteristics. An electric motor of the first invention comprises a rotor 10 having four radial protrusions 10a provided along an outer periphery of a magnetic disc with equal intervals, and a disc 40 of magnetic circular plate. The rotor 10 and the disc 40 are firmly connected with a rotational shaft 60 as a permanent magnet 20 is interposed therebetween. Around the rotor 10 and the disc 40 are extended twelve bar-shaped electromagnets 30 between the outer peripheries of the rotor 10 and the disc 40. The rotor 10 and the disc 40 are rotatably supported inside the electromagnets 30 and energizing of predetermined electromagnets 30 converges a magnetic flux to the energized electromagnets which was distributed between the respective poles of the permanent magnet 20. As a result, the magnetic flux which locked the rotor 10 in a power off state easily disappears and smooth start is secured. Moreover, magnetic interaction interfering rotation is prevented.